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ABSTRACT

Young, poorly educated, single mothers from lower socioeconomic groups are commonly identified as being at high risk of engaging in physical abuse. However, the seemingly obvious relationship between adolescent parenting and child maltreatment is not clearly supported by previous empirical research. This study, based on an ecological framework, reexamined the issue using a nationally representative sample of mothers (N=1,997). All analyses controlled for family income, race, number of minor children in the home, age of abused child, mother's education, and whether mother was a single parent. Physical abuse was measured with the Conflict Tactics Scale. Using mothers' age at time of birth of the abused child, the younger the mother, the greater the rate of child abuse. However, there was not a significant relationship when mother's age was measured as age at time of abuse. Large families and minority children were also found to be at greater risk of abuse. The findings have implications for prevention of physical abuse at both the microsystem and macrosystem level. At the micro level, the findings confirm the importance of making contraceptives and abortion widely available so that motherhood can be postponed and family size can be controlled. At the macro level, the findings suggest that steps to reduce the poverty that is so often associated with minority group status can lower the rate of child abuse. (Author/ABL)

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MOTHER'S AGE AND PHYSICAL ABUSE OF CHILDREN*

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Abstract

It is widely believed that young mothers are at greater risk of engaging in physical abuse. However, this relationship is not clearly supported by previous empirical research. This study, based on a ecological framework, reexamines the issue using a nationally representative sample of 1,997 mothers. All analyses controlled for family income, race, number of minor children in the home, age of abused child, mother's education, and whether mother was a single parent. Physical abuse was measured with the Conflicts Tactics Scale. Using mothers age at time of birth of the abused child, the younger the mother, the greater the rate of child abuse. However, there was not a significant relationship when mother's age was measured as age at time of abuse. Large families and minority group children were also found to be at greater risk of abuse. The paper discusses implications for further research and for prevention of child abuse.

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Young, poorly educated, single mothers from lower socioeconomic groups are commonly identified as being at high risk to abuse (Garbarino, 1977; Murphy, Orkow & Nicola; Straus, Gelles, & Steinmetz, 1980). However, Bolton (1981) points out that the seemingly obvious relationship between adolescent parenting and child maltreatment has escaped clear confirmation by empirical research. In view of the inconsistency in finding on the link between mother's age and child abuse, additional research is needed and the study reported in this paper is a step in that direction.

THE ECOLOGICAL PERSPECTIVE

The research reported in this paper was guided by the ecological perspective (Bronfenbrenner, 1977) which assumes that a person's environment can be understood as a series of settings, each nested within the next broader level, ranging from the microenvironment of the family to the macroenvironment of society. Bronfenbrenner (1977) focused on the accommodation over the life cycle between humans and their changing environment. Garbarino (1977) and Belsky (1980) modified and applied the ecological model to understanding child abuse. Garbarino's analysis (1977) places child abuse in a perspective that emphasizes the "social context." He argued that child abuse is related to what normal caregivers do with children, and to what the society and its institutions as a whole consider normal childrearing practices.

Belsky (1980) focuses on the assumption that the causes of child abuse are nested within each other and argues there are four levels of ecological analysis: ontogenic development, the microsystem, the exosystem, and the macrosystem. This typology of four levels provides the framework we used to examine the relationship between mother's age and physical abuse.

Ontogenic Development

Ontogenic development refers to the idea that both mother and child have personal characteristics, unique life histories, physical and psychological attitudes which they bring to any relationship (Howze, 1984). Unmet dependency needs, impaired impulse control and poor self-image are several characteristics frequently associated with child abuse (Starr, 1988). Low birth weight, prematurity and birth defects are characteristics which have been identified as factors which place a child at greater risk for abuse (Elmer & Gregg, 1967; Ounsted, Oppenheimer & Lindsay, 1974). All of these risk factors are associated with early motherhood.

A young mother brings limited life experience to the parent role. Thus she may lack knowledge about what to expect from and how to care for a child and may have difficulty controlling emotions (Field, 1980; McAnarney et al, 1979). A major task of adolescence is the development of self-identity (Erikson, 1963) and it may be difficult for a young mother to separate her needs from those of the child (Walter, 1989). Unresolved needs may lead to unrealistic expectations of the child which combined with ignorance of child care techniques may lead to low

frustration tolerance and child abuse. These problems lead us to believe that the younger the mother, the higher the probability of child abuse.

Microsystem

The family is the microsystem that is most directly relevant for understanding child abuse. Low education, unemployment, social isolation, and single parenthood are characteristics frequently attributed to perpetrators of child abuse (Gelles, 1980). Young mothers are often single, have less than high school education, and are unemployed. On the other hand, age can interact with other variables to produce the inconsistent findings noted above. Young mothers may receive a greater amount of family support (Berzoff, 1989; Zuravin, 1988) and this can help overcome the effect of these risk factors (Garbarino, 1982). Differences between study populations in social support might explain some of the inconsistencies in the previous research. Another possible source of inconsistency may occur because older mothers tend to have more children, and additional children requires dividing material and emotional resources. Differences in martial status between study populations is still another source of inconsistency because the presence of a partner may affect the probability of abuse. If a spouse is available this in itself may increase the chance of abuse by another family member. Although factors such as the availability of parental support, number of children, and presence of a spouse may somewhat mitigate the effect of early motherhood, we expect to find that even with these factors controlled, youthfulness will remain a risk factor for physical abuse.

Exosystem

Exosystem represents the formal and informal structure (neighborhood, social networks) that impinge on or encompass the immediate settings the individual is found in. Families interact with larger social units and the presence and nature of these relationships may affect the risk for child abuse (Howze & Kotch, 1984). Although social isolation from social contact correlates with increased rates of child abuse (Starr, 1988), some social networks may be associated with child abuse. During the adolescent stage of development, the peer group is a strong influence, in fact behavioral standards and support for developmental crisis are derived from peers. Support networks tend to be others of similar age, thus their child care networks also tend to be similarly inexperienced, whereas older adults generally provide models more attuned to infant needs.

Macrosystem

Macrosystem contains the cultural values and belief systems which influence ontogenic development and the micro and exosystems (Bersani & Chen, 1988; Howze et al 1984). Because values and attitudes are developed consciously and unconsciously, the cultural tolerance for physical conflict resolution in the United States plays a major role in establishing the framework for family transactions. The almost universal approval of physical punishment (Straus, 1989) and the glorification of violence for socially approved ends by the mass media, set examples that

make prevention of child abuse difficult (Baron & Straus, 1989; Howze & Kotch, 1984; Millor, 1981; Straus et al, 1980).

Research on the issue of whether mother's age affects the risk of child abuse must take into account not only the age of the mother but also as many micro, exo, and macro system variables as possible. In the research reported in this paper, we move in that direction by including six other variables in the analysis.

MOTHER'S AGE AND CHILD ABUSE

(Table 1 about here)

The + signs in the last column of Table 1 show that five of the 12 studies we reviewed found evidence supporting the hypothesis that the rate of child abuse is greater for young mothers. The ?'s in Table 1 indicate that four reported findings that can be interpreted as providing some, but questionable, support for the age hypothesis; and the 0's indicate that three studies found no relationship.

There could be many reasons for the discrepancies between these studies, including methodological deficiencies that might invalidate some of the studies and differences in the way the studies were carried out. For example, (Gill 1970) reported no relationship of age of mother to child abuse. However, Gil failed to compare the age distribution of the abusive mothers with the age distribution of mothers in the general population. Straus et al (1980) did find support for the age hypothesis, but their age categories (under 30 and 30 and over) does not provide information on the presumable high risk groups of the teens to the early twenties. The discrepancies might also be due to lack of standardized procedures for defining abuse, and lack of multivariate analysis to control for confounding with other variables. Finally, the studies used different methods to measure maternal age.

In view of these problems, it is difficult to conclude from existing studies whether the mother's age is a risk factor for child abuse. The study reported in this paper, although it has its own limitations, can help overcome some of these problems because it uses a standardized measure of abuse, a large and representative sample of mothers, and also applies multivariate analysis to control for confounding of age and abuse with other variables.

SAMPLE AND METHOD

Measurement of Physical Abuse

For purposes of this research, physical abuse was measured by use of the Conflict Tactics Scale or CTS (Straus, 1979, 1990a, b). The CTS is intended to measure use of Reasoning, Verbal Aggression, and Physical Aggression between parent and child. It begins by asking the subject to think of the problems and conflicts which she had with the child during the previous 12 months, and then to respond to a list of questions on what she did in those situations. The list begins with items making up the

Reasoning scale, then goes on to items in the Verbal Aggression scale, and finally acts of physical violence. The violent acts are arranged in increasing order of severity. The first three of the violence scale items refer to acts such as spanking that are considered to be ordinary physical punishment. The remaining six items are used to create the measure of child abuse. These are acts which have a higher risk of producing an injury than the physical punishment acts. If the mother reported using one or more of these acts, she was classified as having engaged in physical abuse. The six items making up the child abuse scale of the CTS are: Kicked, bit, or hit with fist; Hit or tried to hit with something; Beat up; Burned or scaled; Threatened with a knife or gun; Used a knife or gun.

Independent And Control Variables

Mother's Age. Two measures of mothers age were used: age at the time of abuse. Since the abuse was measured for the current year, it is the same as the mothers age at the time of interview. Age at time of the child's birth was computed by subtracting the age of the child from the mother's current age.

Control Variables. All analysis controlled for family income, race, number of minor children in the household, age of abused child, mothers education, and whether the mother was a single parent. This enables us to determine the effect of mother's age net of these other variables and also to investigate the effect of these other six variables on the risk of child abuse.

Sample and Procedure for Obtaining Data

The subjects are a nationally representative sample of women with a child age 17 and under at home between the ages of 18 and 46 (N = 1,997) interviewed as part of the National Family Violence Resurvey (Straus & Gelles, 1986). The interviews were conducted by telephone in the summer of 1985. To be eligible for inclusion in the sample, a household had to include adults 18 years of age or older who were 1) currently married; 2) currently living as a male-female couple; 3) divorced or separated within the last two years; 4) single parent with a child under 18 years of age and living in the household. The response rate was 84%. Further information on the sampling design, characteristics of the sample, validity of the telephone interviews is given in Straus & Gelles, 1986.

Hypotheses And Data Analysis

Although the review of literature shows inconsistent findings, on theoretical grounds we believe that early motherhood is a risk factor for abuse (Altemeir et al, 1984; Bersani and Chen, 1988; Davis, 1989), and we therefore hypothesized that:

Ho 1: The younger the age of the mother the greater the probability of physical abuse

In addition, there are grounds for believing that the risk is compounded when there is more than one child (Straus, Gelles, & Steinmetz, 1980; Zuravin, 1988). Consequently:

Ho 2: The more minor children at home, the greater the probability of physical abuse.

Logistic regression ("logit") was used to test these hypotheses, while controlling for the six variables mentioned above. The analysis was done using the microcomputer program STATA (Hamilton, 1990). Logistic regression is the appropriate statistical technique when the dependent variable is dichotomous, either occurring or not occurring (Aldrich & Nelson, 1984; Hanacheck & Jackson, 1977; Hamilton, 1990).

RESULTS

Mother's Age

The logit analysis using mother's age at time of abuse showed trends which were consistent with the hypotheses, but not statistically significant. However, the analysis using age at time of birth of the abused child produced statistically significant relationships. These are presented in Table 2 and graphed in Figure 1. The downward slope of all the plot lines in Figure 1 shows that, as specified in Hypothesis 1, the younger the mother at the time of the birth of the "referent child," the higher the probability of child abuse during the year of this study. These findings confirm importance of age at birth rather than age at time of abuse (Zuravin, 1988). The difference can be illustrated by imagining two mothers, both age 22 at the time of abuse. However, one is the mother of a one year old, and the other the mother of a six year old. The later had to cope with birth, and with care of an infant, at age 16. For the reasons indicated earlier in this paper, there are circumstances associated with such early child rearing which increase the risk of abuse.

(Table 2 and Figure 1 about here)

Other Risk Factors

Family Size. The fact that the plot line for families with 4 or more children is above that for 3 children, and that the lowest line is for families with one child at home, supports Hypothesis 2, that the more children the greater the risk of child abuse.

(Figure 2 about here)

Minority Groups. In addition, Table 2 shows that minority status, which in this sample is almost entirely Afro-Americans and Hispanics, is associated with an increased probability of child abuse. Figure 2 plots this relationship. At the same time, it also shows that early motherhood is a risk factor for child abuse among white mothers as well as among minority group mothers.

Non-Significant Variables. The four variables which Table 2 shows to not be statistically significant are also important. Specifically, we

found that low education mothers, young children, single mothers, and low income mothers are not more likely to abuse or be abused. Our findings suggest that the view of these variables as risk factors for child abuse occurs because they are confounded with early motherhood, large family size, and minority group status. When the overlap of the four variables just listed with the three significant variables is taken into account, as was done in the logistic regression analysis, they become non-significant. However, other processes may account for some of the non-significant relationships, as will be illustrated below.

Child's Age. Table 2 shows that the age of the child is not related to child abuse, but most other data indicate that infants are at greater risk of physical abuse. The discrepancy could reflect differences in the way physical abuse is measured. The CTS measure of physical abuse used in this study is based on whether the child was severely assaulted, regardless of whether the assault resulted in an injury. Most other data, for example, the data from state Child Protective Services records analyzed by the American Association For Protecing Children (1986) is largely based on whether there was an injury that brought the case to public attention.

A detailed analysis of differences in child abuse according to the age of the children in this sample by Wauchope & Straus (1990) shows that infants are not attacked more often than older children. However, shaking a six year old is unlikely to produce an injury, whereas shaking a six month old can be fatal. This produces a higher rate of child abuse among infants, even though there is no difference in the percent of infants and older children who are assaulted by a parent (Straus, 1990).

Our findings on the conflicting findings which result from using the age of the mother at the time of the abuse versus age at time of birth of the abused child suggest the value of further research on the four non-significant variable. It could do more than resolve the discrepancies between studies. Such research could yield additional understanding of the etiology of child abuse, as we think has resulted from our analyses of the discrepancies between studies of the effect of mother's age and of child's age on child abuse.

SUMMARY AND CONCLUSIONS

The relationship between mother's age and child abuse is often mentioned but seldom adequately investigated. Moreover, the results of those investigations are inconsistent. The research reported in this paper was undertaken in the hope that it could provide more definitive data on the issue. It reports findings based on a study of 1,997 mothers in the 1985 National family Violence Survey. It uses an ecological framework which assumes that physical abuse of children is a complex phenomena with multiple causes -- the end result of variables from many different levels including the individual, parent and child, the family, the neighborhood, society, and the culture (Belsky, 1980). The present study includes six such variables in addition to mother's age. The findings can be summarized as follows:

1. The younger the mother, the greater the risk of physical abuse, provided mother's age is measured as age at time of birth of abused child.

However, a significant relationship was not found when mother's age was measured as age at time of abuse. This suggests that the problem lies in difficulties in coping with birth and infancy of the child at a young age due to immaturity and lack of education and income.

2. The number of children in the household, adds to the risk of child abuse. At age 25, mothers with five or more minor children at home have about double the probability of physically abusing a child than mothers with one child at home.

3. Minority group children are at higher risk of physical abuse.

The use of logistic regression also enables us to conclude that the findings on mother's age apply regardless of the age of the child, number of children, minority group status, education, being a single parent, or low income.

The findings have implications for steps that can be taken at both the microsystem and macrosystem level to prevent physical abuse. At the micro level, the findings confirm the importance of making contraceptives and abortion widely available so that motherhood can be postponed and to enable family size to be controlled. At the macro level the findings suggest that steps to reduce the poverty that is so often associated with minority group status (Roberts, 1979) can lower the rate of child abuse. A reduction in poverty can make a direct contribution by lowering of the economic and other stress which is known to be a risk factor for child abuse (Straus & Kaufman Kantor, 1987; Zuravin, 1988). In addition, there can be an indirect effect because poverty is associated with early child bearing and high fertility. Thus, a reduction in poverty is likely to reduce the number of young mothers and multi-child families, and therefore help bring about a lower incidence of child abuse.

Many other factors need to be investigated to fully understand the circumstances which produce a high rate of abuse among young mothers. For example, ecological theory suggests that the nature of the support system available to the mother, and cultural norms and expectations are involved. Thus, an adolescent mother may not be at high risk of abusing her child if adequately supported by members of informal and formal support networks (Barrera, 1981; Dunst et al, 1986; Garbarino, 1982; Held, 1981). Nevertheless, the findings from this study suggest that unless mitigating factors such as social support are present, early motherhood is associated with a high risk of engaging in physical abuse.

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Table 1. Summary of Research On Relation of Mother's Age To Physical Abuse

Author & Date	Sample	Mother's Age at time of:	Relation of Age to Abuse	Age Hypothesis Supported
American Humane Assoc. 1977	Mothers validated for child abuse	1st birth	No age difference	0
Benedict et al 1985	Mothers reported for physical abuse	Birth of abused child	Abusive mothers younger	+
Bolton et al 1980	Mothers reported for child maltreatment	1st birth	Higher rate by adolescent mothers	+
Bolton & Laner, 1981	Mothers reported for for child maltreatment	1st birth	Higher rate by adolescent mothers living alone	+
Coll, et al 1987	Low-middle SES primiparous Caucasian women	1st birth	Higher rate of punishment by adolescents, but diff.not sig. when SES & ed. controlled	?
Gil, 1970**	Mothers reported for physical abuses in 30 US cites/counties	1st birth	Teens overrepresentd in report population but no diff. between mothers under & over 20	?
Kinard, 1976*	Mo's of 30 physically physically abused and 30 non abused children	1st birth	No age difference, but both groups have higher % of teens than in general population	?
McCarthy 1978**	Mothers reported for physical abuse	1st birth	Teens overrepresented in abuse sample	+
Murphy et al 1985	Mothers in Mother-Infant, Children & Youth project	Birth of abused child	No age difference	0
Philliber Graham, 1981	Urban Black & Hispanic Primiparas	1st Birth	No relationship to age	0
Straus et al 1980	National sample 1,146 parents	Abuse	Higher rate by mothers under 30	+
Zuravin 1988	Single parent welfare mothers	1st birth	No overall difference but higher rate by young mothers with multiple children	+

* + = Yes, ? = Some support, but not clear, 0 = No relation with age

** As reanalyzed by Kinard & Klerman, 1980

Table 2. Logistic Regression of Child Abuse On Mothers Age At Birth Of Abused Child and Six Other Variables

Variable	Logit Coeff	Standard Error	t	p
Mother's Age	-.0277	.0139	-1.990	0.047
Race	-.5032	.1446	-3.480	0.001
Number of Children	.2131	.0612	3.479	0.001
Mother's Education	.1167	.0740	1.577	0.115
Age of Child	-.0105	.0134	-0.787	0.431
Single Parent	-.0782	.1728	-0.453	0.651
Family Income	-.0786	.0593	-1.326	0.185
Constant	-1.4116	.4215	-3.348	0.001

Number of obs = 1997, Log Likelihood = -735.9628
Chi-Square = 38.24, Prob <.0001

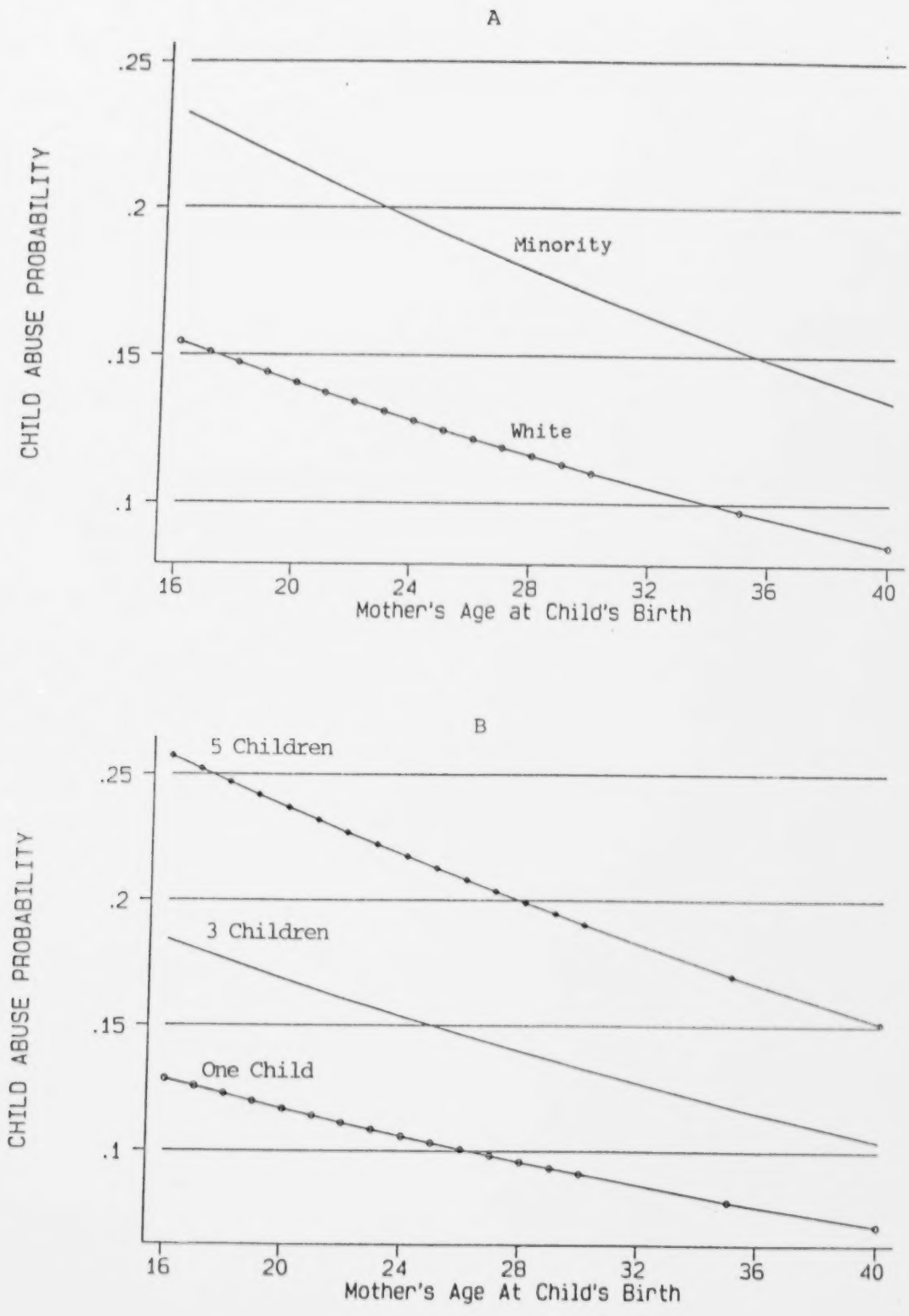

Figure 1. Physical Abuse By Mothers Age, Number of Children, and Race